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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,810

08/08/2006

Hidenori Kin

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EXAMINER

ROTH, LAURA K

ART UNIT

PAPER NUMBER

2852

NOTIFICATION DATE

DELIVERY MODE

02/17/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/597,810	<b>Applicant(s)</b> KIN ET AL.	
	<b>Examiner</b> Laura K. Roth	<b>Art Unit</b> 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-39 and 41-50 is/are pending in the application.
- 4a) Of the above claim(s) 6-38,41-44 and 46-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 39, 45, and 50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/18/09 &amp; 1/13/10</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Objections***

Claims 1, 39, and 45 are objected to because of the following informalities: the phrase "dot" should be rewritten as - - dots - - (cl.1, ln.17; cl.39, ln.16; cl.45, ln.16) .  
Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 39, 45, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirst (US 5,655,174).

Regarding claim 1, Hirst (US 5,655,174) teaches an image forming apparatus, comprising: a latent image carrier which is able to carry an electrostatic latent image on a surface thereof (col.1, ln.13-15: an electrostatographic printing apparatus must satisfy this condition in order to function); a developing section which visualizes the electrostatic latent image on the surface of the latent image carrier with toner and forms a toner image (col.1, ln.13-15; col.1, ln.20; fig.1, #48: an electrostatographic printing apparatus must satisfy this condition in order to function); and a toner consumption amount calculator (fig.1, #38) which calculates a toner consumption amount consumed by the developing section (col.5, ln.10-26), wherein the toner consumption amount calculator determines a state of a two-dimensional arrangement of a plurality of printing

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dots formed on the latent image carrier (col.4, ln.1-22), divides the plurality of printing dots formed on the latent image carrier into classes depending upon the number of printing dots formed in a predetermined area surrounding the printing dot subject to calculation in the surface of the latent image carrier (fig.6, #112; fig.4, 'number of neighbors'), counts the number of printing dots classified to the respective classes (see fig.4, 'accumulated count...'), multiplies each of the counted numbers of the respective classes by each of weighted coefficients (fig.4, 'accumulated...' x 'weight' = 'estimated'; fig.6, #116), and accumulates the products of the multiplication (fig.4, 'estimated...'; fig.6, #118), thereby calculating the toner consumption amount (col.4, ln.23-40), the weighted coefficients being predetermined for the respective classes and corresponding to a toner adhesion amount depending upon a number of adjacent dot in the predetermined area (see fig.3&4).

Regarding claim 2, Hirst (US 5,655,174) teaches an image forming apparatus further comprising: a latent image forming section which forms a plurality of linear latent images on the latent image carrier of which the positions are different from each other, thereby forming a two-dimensional electrostatic latent image on the surface of the latent image carrier (col.4, ln.1-22); and a storage (fig.1, #34) which stores image data which correspond to a plurality of lines of the plurality of linear latent images, wherein the toner consumption amount calculator determines the state of the two-dimensional arrangement of the plurality of printing dots based on the image data stored in the storage (col.4, ln.1-22).

Regarding claim 50, Hirst (US 5,655,174) teaches an image forming apparatus wherein the storage stores image data that correspond to three lines of the linear latent images including a scanning line on which the printing dot subject to calculation exists and one line each of before and after thereof (col.4, ln.1-22: though not mentioned specifically, this must happen to achieve the goals of this passage; see also fig.3:both lines of #RN-1 must be stored as well as the first line of #RN to determine adjacent pixels of #78).

Regarding claim 4, Hirst (US 5,655,174) teaches an image forming apparatus wherein the toner consumption amount calculator accumulates the toner consumption amount of each of the plurality of printing dots formed during a period of time subject to calculation, thereby calculating a total toner consumption amount during the period of time (claim 17).

Regarding claim 39, Hirst (US 5,655,174) teaches a toner counter which is used in an image forming apparatus which visualizes an electrostatic latent image on a surface of a latent image carrier with toner and forms a toner image, the toner counter comprising: a determining section (fig.1, part of #38 & #34) which determines a state of a two-dimensional arrangement of a plurality of printing dots formed on the latent image carrier and divides the plurality of printing dots formed on the latent image carrier into classes depending upon the number of printing dots formed in a predetermined area surrounding the printing dot subject to calculation in the surface of the latent image carrier (fig.6, #112; fig.4, 'number of neighbors'); and a calculating section (fig.1, part of #38) which calculates a toner consumption amount based on the determination result by

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the determining section (col.3, ln.59-col.4, ln.32), wherein the calculating section counts the number of printing dots classified to the respective classes (see fig.4, 'accumulated count...'), multiplies each of the counted numbers of the respective classes by each of weighted coefficients (fig.4, 'accumulated...' x 'weight' = 'estimated'; fig.6, #116), and accumulates the products of the multiplication (fig.4, 'estimated...'; fig.6, #118), thereby calculating the toner consumption amount (col.4, ln.23-40), the weighted coefficients being predetermined for the respective classes and corresponding to a toner adhesion amount depending upon a number of adjacent dot in the predetermined area (see fig.3&4).

Regarding claim 45, the limitations of the method are met by the apparatus of Hirst (US 5,655,174) as applied to claim 39 and therefore stand rejected on the same grounds.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Response to Arguments***

Applicant's arguments filed 20 October 2009 have been fully considered but they are not persuasive. The applicant argues that referenced feature (d) is not taught and that feature (c) is not explicitly stated. The office respectfully disagrees. According to col.4, ln.33-40, the weighting is based on the amount of toner consumption for a given pixel location and according to col.4, ln.23-32 and fig.4, there is a predetermined weight value assigned to each neighbor number class. From these areas, item (d) is taught. Regarding item (c), col.4, ln.30-32 teaches the multiplying and accumulating as well as fig.4 and the flow chart of fig.6. Support can also be found in the abstract, lines 7-12.

Additionally, regarding claim 50, applicants argue that the storage in Hirst stores data of the whole image, not just 3 lines. While this is true, in the process of storing the whole image, it also stores three lines including the line of the pixel to be classified and weighted and is deemed to read upon the claim.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura K. Roth whose telephone number is (571)272-2154. The examiner can normally be reached on Monday-Friday, 7:30 am to 3:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David M. Gray can be reached on (571)272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M Gray/  
Supervisory Patent Examiner,  
Art Unit 2852

/LKR/  
2/2/2010